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ROBERT E. BUSHNELL
1522 K STREET NW
SUITE 300
WASHINGTON, DC 20005-1202

EXAMINER

HESELTIME, RYAN J

ART UNIT

PAPER NUMBER

2623

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8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/671,671

Applicant(s)

CHOI ET AL.

Examiner

Ryan J Hesseltine

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 15-18 is/are rejected.
- 7) ☒ Claim(s) 14 and 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.
2. Applicant's arguments, see pages 2-7, filed March 12, 2004, with respect to the rejection(s) of claim(s) 1 under 35 U.S.C. § 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Allport (USPN 6,256,019, previously cited) in view of Hoshino (EP 923,018, newly cited). The examiner would also like to point out the following previously cited references, which, although not relied upon in the rejection, disclose applicable subject matter: USPN 5,680,205 to Borza discloses a fingerprint imaging apparatus with auxiliary lens that can be mounted on a computer system or computer monitor (Figures 4 and 5). USPN 6,181,803 to Davis discloses an apparatus and method for securely processing biometric information to control access to a node wherein a biometric device such as a fingerprint sensor may be implemented internally within the casing of the display monitor, which, contrary to applicant's interpretation, means that the device electronics are inside the monitor casing, but a lens, platen, or other optics are external to allow biometric capture (column 3, line 46-58). USPN 6,400,836 to Senior discloses a combined fingerprint acquisition and control device wherein an image scanner may be incorporated into the keyboard, mouse, or display of a desktop computer or computer terminal (column 10, line 53-58).
3. Applicant's arguments with respect to claims 2-13 and 15-18 have been considered but are moot in view of the new ground(s) of rejection.

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4. Applicant's arguments on pages 11-13, filed March 12, 2004, with respect to claims 14 and 19 have been fully considered and are persuasive. The rejection of claims 14 and 19 has been withdrawn.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claim 10 is rejected under 35 U.S.C. 102(e) as being anticipated by Allport (USPN 6,256,019, previously cited).

7. Regarding claim 10, Allport discloses a display apparatus comprising: a front cover (Figure 1, not labeled) surrounding a display screen (20); and fingerprint recognizing means (30) located on a front or side panel of the front cover (column 4, line 56-65; column 5, line 11-44).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 3-5, 9, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allport in view of Hoshino (EP 923,018, newly cited).

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10. Regarding claim 1, Allport discloses a fingerprint recognizing display system comprising: a monitor having a screen (20) and a front cover surrounding said screen (Figure 1, not labeled); a fingerprint recognizing module (not shown) included with said monitor, said fingerprint recognizing module including a fingerprint image recognizing unit (30) disposed on a surface of said front cover (Figure 1; column 4, line 56-65), wherein a user desiring access to said fingerprint recognizing display system touches said fingerprint image recognizing unit (column 5, line 11-44); and a computer main body (10) including a fingerprint data base (column 9, line 8-15) and a fingerprint verifying unit (column 3, line 22-34), wherein said fingerprint verifying unit compares fingerprint data transmitted from said fingerprint recognizing module to registered fingerprint data stored in said fingerprint data base and permits said user access to programs stored in said fingerprint recognizing display system when it is determined that the fingerprint of said user matches fingerprint data stored in said fingerprint data base (column 6, line 23-35).

11. Allport discloses that the controller 10 allows multi-user access to the functionality of consumer devices such as televisions, CD players, stereos, tape players, computers, etc. (column 4, line 48-55) and that the user is recognized using a fingerprint database of known users that may be stored within the controller itself, or may be stored externally on a separate storage device (column 9, line 8-15), but does not explicitly disclose that the user's fingerprint must match a registered fingerprint in order to be permitted access to stored programs. In other words, the user is recognized by the input fingerprint in order to determine stored preferences and the last state in which the user used the device (column 7, line 39-54), but does not prevent a user from using the device if the input fingerprint is not recognized. Hoshino discloses a personal

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authentication system including a computer 1, a fingerprint database 4, and an input means 3 including a keyboard 8, a fingerprint sensor 9, a display device 10, and a fingerprint-collating device 12 (Figure 1; column 2, line 43-column 3, line 6, and line 15-20). Hoshino further discloses that if the sensor 9 detects fingerprint information, it is determined if the detected fingerprint information is coincident with the registered fingerprint information, and if so, the user is allowed to perform operations such as log-on, encrypting data, etc. (column 3, line 26-44). It would have been obvious to one of ordinary skill in the art at the time the invention was made to permit a user access to stored programs when it is determined that the user's fingerprint matches fingerprint data stored in a database as taught by Hoshino in order to provide a personal authentication system which includes a small-sized input device, prevent use of the system by other people without the possibility of a password being compromised by being easily guessed or stolen (column 1, line 29-50).

12. Regarding claim 12, Allport discloses a method of recognizing a fingerprint to enable a user to operate a computer system (column 4, line 48-55), said method being embodied in an operating system kernel mode and comprising the steps of: detecting a fingerprint of the user when said user touches a portion of a front cover surrounding a display screen (20) of a monitor of said computer system (Figure 1; column 4, line 56-65); comparing the fingerprint data (column 3, line 22-34) to registered fingerprint data output from a fingerprint data base included in a computer main body (column 9, line 8-15); and enabling said computer system to be operated by said user when said comparing step indicates that there is a match between the fingerprint data transmitted from said monitor and the registered fingerprint data output from said fingerprint data base (column 6, line 23-35), or disabling said computer system to prevent

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operation by said user when said comparing step indicates that there is not a match (not coincident) between the fingerprint data transmitted from said monitor and the registered fingerprint data output from said fingerprint data base (Hoshino, column 4, line 3-7; see above discussion of claim 1).

13. Allport discloses that the fingerprint database may be stored externally on a separate storage device (column 9, line 8-11) and also discloses that an aspect of the invention includes hardware capable of sending infrared (IR) commands (column 4, line 14-18), but does not disclose transmitting fingerprint data corresponding to said fingerprint of said user, when detected, from said monitor to a computer main body of said computer system. Hoshino discloses that the fingerprint sensor 9, which is integrated with the keyboard 8, is separate from the computer 1 and further discloses that the fingerprint collating device 12 may not be included in the input device but may be individually and directly connected to the computer (column 3, line 15-20), in which case the fingerprint image captured by the fingerprint sensor would have to be transmitted back to the computer for collation with the fingerprint database. It would have been obvious to one of ordinary skill in the art at the time the invention was made to transmit fingerprint data of the user, when detected, from said monitor to a computer main body of the computer system as taught by Hoshino in order to provide a small-sized input device that can prevent use of the system by other people and to allow the user to perform operations on the computer system when it is determined that the detected fingerprint information is coincident with the registered fingerprint information (column 1, line 45-column 2, line 10).

14. Regarding claim 4, neither Allport nor Hoshino explicitly disclose that said monitor includes a microprocessor communicating with a video card in said computer main body. The

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examiner takes Official Notice that video cards are well known in the computing art for providing graphics to computer monitors. The examiner has already pointed out that Allport suggests wireless communication by sending infrared (IR) commands (column 4, line 14-18), which may be used to communicate with a computer system (column 4, line 48-55), and it is inherent that some sort of hardware or software (internal electronics) must be present to drive the display 20, which Allport discloses are known in the art (column 4, line 56-65). Additionally, Hoshino discloses a more conventional computer system wherein the input device 3 including a keyboard 8, fingerprint sensor 9, and display device 10 that communicates with the computer 1 via interface 2 (Figure 1; column 2, line 52-57). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a monitor including a microprocessor communicating with a video card in said computer main body in order to transmit information between the monitor and computer system.

15. Regarding claims 3 and 5, neither Allport nor Hoshino explicitly disclose a converter converting analog fingerprint data input from the fingerprint image recognizing unit to digital fingerprint data. The examiner takes Official Notice that such analog to digital converters are well known in the art if not implicit in both references such as Hoshino's adapter circuit 11 (Figure 1; column 2, line 52-57; column 3, line 31-36). Hoshino goes on to disclose a first communication unit (microprocessor) transmitting the digital fingerprint data to a second communication unit (via interface 2) in the computer main body (Figure 1, column 2, line 43-57; column 3, line 13-14). It would have been obvious to one of ordinary skill in the art at the time the invention was made to convert analog fingerprint data to digital fingerprint data and to transmit the digital fingerprint data to the computer main body as taught by Hoshino in order to

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determine if the detected fingerprint information is coincident with registered fingerprint information and allow the user to communicate with the computer system (column 2, line 6-10 and 52-57).

16. Regarding claim 9, Allport does not explicitly disclose that said monitor comprises a liquid crystal display (LCD) apparatus, but such displays are well known in the art, as are cathode ray tube (CRT) displays. The examiner takes Official Notice that LCDs and CRTs are well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize an LCD as Allport's display monitor 20 in order to provide a lightweight, clear display that is highly standardized and portable.

17. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Allport in view of Srey et al. (6,141,436, previously cited, hereafter Srey).

18. Regarding claim 11, Allport discloses a display apparatus comprising: a front cover (Figure 1, not labeled) surrounding a display screen (20); and fingerprint recognizing means (30) located on a predetermined portion of said front cover to read a fingerprint image of a user (column 4, line 56-65; column 5, line 11-44), but does not disclose that the fingerprint recognizing means is formed integrally with a power switch placed on a predetermined portion of the front cover. Srey discloses a portable communication device (cellular telephone) having a fingerprint identification system wherein a fingerprint scanner 115 is integrally formed with the power switch 201 which generates a power on/off signal when actuated by the user's finger (column 5, line 55-column 6, line 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to integrally form a fingerprint recognizing means with a

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power switch as taught by Srey in order to allow the finger to generate the actuation force for the power switch when the fingerprint is positioned on the scanner so the processor can determine whether the fingerprint image matches a reference fingerprint, then placing the circuitry in one of two modes responsive to the power on/off signal depending on whether or not the fingerprints match (column 6, line 2-17).

19. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Allport in view of Hoshino as applied to claim 1 above, and further in view of Srey.

20. Regarding claim 2, Allport does not disclose that said fingerprint image recognizing unit is integrally formed with a power switch disposed on the surface of said front cover. Srey discloses a portable communication device (cellular telephone) having a fingerprint identification system wherein a fingerprint scanner 115 is integrally formed with the power switch 201 which generates a power on/off signal when actuated by the user's finger (column 5, line 55-column 6, line 2; see above discussion of claim 11).

21. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allport in view of Hoshino as applied to claims 1, 3, and 5 above, and further in view of Setlak et al. (USPN 5,828,773, newly cited, hereafter Setlak).

22. Regarding claims 6-8, Allport does not disclose that said fingerprint verifying unit includes: a decoding unit for decoding the registered fingerprint data read from said fingerprint data base, an encoding unit for encoding fingerprint data for storage into said fingerprint data base, or a distinctive feature detecting unit for detecting a distinctive feature of a fingerprint corresponding to the fingerprint data transmitted from said monitor. Setlak discloses a

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fingerprint sensing method with finger position indication wherein a fingerprint verifying unit includes: a decoding unit (not shown) for decoding the registered fingerprint data read from said fingerprint data base (column 11, line 10-19); an encoding unit (194) for encoding fingerprint data for storage into said fingerprint data base (column 10, line 64-column 11, line 9); a distinctive feature detecting (extracting) unit for detecting a distinctive feature of a fingerprint corresponding to the captured fingerprint data (column 9, line 22-29; column 13, line 20-39); a fingerprint matching/recording unit for receiving decoded fingerprint data from said decoding unit and also for providing fingerprint data to said encoding unit, said fingerprint matching/recording unit comparing (correlating) decoded fingerprint data received from said decoding unit to said distinctive feature received from said distinctive feature detecting unit (column 9, line 30-44) and also for outputting said distinctive feature received from said distinctive feature detecting unit to said encoding unit to be stored as the registered fingerprint data in said fingerprint data base (column 11, line 10-19); and a recognizing unit outputting a "pass" signal or a "fail" (positive or negative identification) signal in response to a comparison result (match) output from said fingerprint matching/recording unit (column 9, line 45-60; column 11, line 20-26). It would have been obvious to one of ordinary skill in the art at the time the invention was made to encode/decode fingerprint data in said database and detect distinctive fingerprint features as taught by Setlak in order to ensure that data such as a fingerprint database stored in memory is not readily readable by external connections and/or signal manipulations (column 11, line 14-19; column 12, line 54-column 13, line 3).

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23. Claims 13, 15, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allport in view of Hoshino as applied to claim 12 above, and further in view of O'Connor et al. (USPN 5,838,306, previously cited, hereafter O'Connor).

24. Regarding claim 13, Allport does not disclose determining whether said monitor is a fingerprint recognizing monitor. O'Connor discloses a mouse with security feature including an application security check routine 901 which calls a check fingerprint mouse driver 903 to determine whether said mouse is a fingerprint recognizing mouse (column 6, line 16-37). If it is determined that said mouse is not a fingerprint recognizing mouse, said mouse is operating in an abnormal status (wrong mouse) and preventing said computer system from being operated, otherwise said step of detecting a fingerprint is performed (column 6, line 16-21). It would have been obvious to one of ordinary skill in the art at the time the invention was made to determine whether said monitor is a fingerprint recognizing monitor in the same manner as determining whether a mouse is a fingerprint recognizing monitor as taught by O'Connor in order to prevent an unauthorized user from attempting to access the system by using a non-fingerprint recognizing monitor (column 6, line 16-21).

25. Regarding claims 15 and 16, Allport discloses that it is conventional to determine whether a keyboard or a mouse of said computer system is operated by said user during operation of a screen protection (system "locked" while displaying a screen saver) routine of said computer system; and continuing to run a screen saver program when it is determined that neither said keyboard nor said mouse have been operated, and ending said screen protection routine when said comparing step indicates that there is a match between the fingerprint data transmitted from said monitor (input password) and the registered fingerprint data output from

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said fingerprint database (stored password), and then performing said step of enabling said computer system to be operated by said user (column 2, line 37-43; column 8, line 11-31).

26. Regarding claim 18, Hoshino discloses determining whether a file stored in said computer system is enabled to be encoded or decoded during operation of a file encoding (encrypting)/decoding routine of said computer system; outputting a message indicating said file can not be encoded or decoded when it is determined said file is not enabled to be encoded or decoded (user is prohibited from encrypting/decoding the data); permitting said user to encode (encrypt) or decode said file when said comparing step indicates that there is a match between the fingerprint data transmitted from the input device and the registered fingerprint data output from said fingerprint database (Figures 4 and 5; column 4, line 8-41). O'Connor discloses performing said step of determining whether said monitor (mouse) is a fingerprint recognizing monitor (column 6, line 16-25; see above discussion of claim 13).

27. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Allport in view of Hoshino as applied to claim 12 above, and further in view of Fitzpatrick et al. (USPN 5,420,936, previously cited, hereafter Fitzpatrick).

28. Regarding claim 17, neither Allport nor Hoshino disclose detecting distinctive features of said fingerprint data, or determining whether the distinctive features are of good quality. Fitzpatrick discloses a method and apparatus for accessing touch screen desktop objects via fingerprint recognition wherein a comparing step includes steps of: checking said fingerprint data transmitted from said monitor and detecting distinctive features thereof (decision block 116); determining whether the detected distinctive features are of good quality (meets recognition

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threshold); and outputting an error message (118) when it is determined that the detected distinctive features are not of good quality and returning to said step of detecting a fingerprint of the user (block 102), or performing said comparing step (decision block 122) when it is determined that the detected distinctive features are of good quality (Figure 5; column 4, line 45-57). It would have been obvious to one of ordinary skill in the art at the time the invention was made to detect distinctive features of said fingerprint data and determine whether the distinctive features are of good quality as taught by Fitzpatrick in order to obtain a fingerprint image that is suitable for recognition (column 4, line 45-49).

Allowable Subject Matter

29. Claims 14 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

30. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- USPN 5,446,290 to Fujieda et al. discloses a fingerprint image input device having an image sensor with openings wherein reduction in size and cost of the device can be achieved by forming the display unit and the fingerprint image input device in a single body (Figure 5A and 5B; column 6, line 38-41).
- USPN 6,021,212 to Ho discloses an electronic key device using a fingerprint to initiate a computer system including a fingerprint-encoding program.

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- USPN 6,271,745 to Anzai et al. discloses a keyless user identification and authorization system for a motor vehicle wherein the front panel of a dashboard unit includes a display unit and a fingerprint sensor (Figure 3; column 4, line 46-50).
- USPN 6,314,196 to Yamaguchi et al. discloses a fingerprint registering method and fingerprint-checking device having a display and fingerprinting unit (Figs. 5 and 24).
- JP 10-063844 to Yoshida discloses a portable terminal with fingerprint read function wherein a fingerprint read part is built in a portable terminal that has a screen display part.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan J Hesseltine whose telephone number is 703-306-4069.

The examiner can normally be reached on Monday - Friday, 8:30 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

rjh
April 8, 2004


JINGGE WU
PRIMARY EXAMINER